REMARKS

Claim Rejections

Claims 1, 7, 9 and 15 are rejected under 35 U.S.C. § 102(e) as being anticipated by Hsien (U.S. 6,655,449). Claims 2-6, 8, 10-14 and 16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hsien in view of Lee (U.S. 5,361,828).

Drawings

Applicant proposes to amend Figure 11, as illustrated in red on the attached photocopy. In Figure 11 it is proposed to change reference number "111" to read --115--, and reference number "112" to read --116--. No "new matter" has been added to the original disclosure by the proposed amendments to these figures. Approval of the proposed drawings changes is respectfully requested.

It is noted that no Patent Drawing Review (Form PTO-948) was received with the outstanding Office Action. Thus, except for the above proposed drawing corrections, Applicant must assume that the drawings are acceptable as filed.

Amendments to Specification

Applicant has amended the specification as noted above to correct duplicate reference numbers in Figure 11. No "new matter" has been added to the original disclosure by the foregoing amendments to the specification.

New Claims

By this Amendment, Applicant has canceled claims 1-16 and has added new claims 17-24 to this application. It is believed that the new claims specifically set forth each element of Applicant's invention in full compliance with 35 U.S.C. § 112, and define subject matter that is patentably distinguishable over the cited prior art, taken individually or in combination.

The new claims are directed toward a cold plate (10) with an inlet (121) and an outlet (122) for a fluid comprising: a base (11) having a groove (112) having first and second ends, the first end being connected to the inlet and the second end

connected to the outlet; a plate (12) connected to the base covering the groove; and at least one vortex generator (13) located on a surface of the plate and aligning with and extending into the groove of the base, each of the at least one vortex generator having a first pair of unparallel and symmetrical ribs (131a, 131b), each of the first pair of unparallel and symmetrical ribs having: parallel front and rear surfaces extending perpendicular to the surface of the plate; first, second, and third edges located between the parallel front and rear surfaces, the first edge being connected to the plate; and a sharp portion (1311a, 1311b) located between the second and third edges and extending upwardly toward the base, first ends of the first pair of unparallel and symmetrical ribs are positioned a contraction distance apart (133), and second ends of the first pair of unparallel and symmetrical ribs are positioned a expansion distance apart (132), the fluid passing between the first pair of unparallel and symmetrical ribs, the contraction distance is smaller than the expansion distance.

Other embodiments of the present invention include: each of the second and the third edges have equal lengths, and each of the parallel front and rear surfaces of the two unparallel and symmetrical ribs are isosceles triangles; one of the second and the third edges is positioned perpendicular to the surface of the plate and each of the parallel front and rear surfaces of the two unparallel and symmetrical ribs are right triangles; the sharp portion is located on the first end of each of the two unparallel and symmetrical ribs; the sharp portion is located on the second end of each of the two unparallel and symmetrical ribs; the inlet and the outlet are located on the plate, the inlet is connected to an input tube receiving a fluid, the outlet is connected to an output tube discharging the fluid; each of the at least one vortex generator includes a second pair of unparallel and symmetrical ribs (331c, 331d), first ends of the second pair of unparallel and symmetrical ribs are positioned the expansion distance apart, and second ends of the second pair of unparallel and symmetrical ribs are positioned the contraction distance apart, the second ends of the first pair of unparallel and symmetrical ribs are positioned adjacent to the first ends of the second pair of unparallel and symmetrical ribs; and the base and the plate are integrally formed.

The primary reference to Hsien teaches a heat dissipation device including a casing (2) including an S-shaped channel (24), and a plurality of posts (3) protruding into the channel.

Hsien does not teach a base having a groove having first and second ends; the first end being connected to the inlet and the second end connected to the outlet; at least one vortex generator located on a surface of the plate and aligning with and extending into the groove of the base; each of the at least one vortex generator having a first pair of unparallel and symmetrical ribs; each of the first pair of unparallel and symmetrical ribs having parallel front and rear surfaces extending perpendicular to the surface of the plate; first, second, and third edges located between the parallel front and rear surfaces, the first edge being connected to the plate; each of the second and the third edges have equal lengths, and each of the parallel front and rear surfaces of the two unparallel and symmetrical ribs are isosceles triangles; the inlet and the outlet are located on the plate, the inlet is connected to an input tube receiving a fluid, the outlet is connected to an output tube discharging the fluid; nor does Hsien teach each of the at least one vortex generator includes a second pair of unparallel and symmetrical ribs, first ends of the second pair of unparallel and symmetrical ribs are positioned the expansion distance apart, and second ends of the second pair of unparallel and symmetrical ribs are positioned the contraction distance apart, the second ends of the first pair of unparallel and symmetrical ribs are positioned adjacent to the first ends of the second pair of unparallel and symmetrical ribs.

It is axiomatic in U.S. patent law that, in order for a reference to anticipate a claimed structure, it must clearly disclose each and every feature of the claimed structure. Applicant submits that it is abundantly clear, as discussed above, that Hsien does not disclose each and every feature of Applicant's new claims and, therefore, could not possibly anticipate these claims under 35 U.S.C. § 102. Absent a specific showing of these features, Hsien cannot be said to anticipate any of Applicant's new claims under 35 U.S.C. § 102.

The secondary reference to Lee et al. teaches a heat transfer service (10) having a plurality of wedged-shaped rectangular turbulators (18) located thereon. Each turbulator has four surfaces, unlike the present invention which has five.

Lee et al. do not teach each of the at least one vortex generator having a first pair of unparallel and symmetrical ribs; each of the first pair of unparallel and symmetrical ribs having parallel front and rear surfaces extending perpendicular to the surface of the plate; first, second, and third edges located between the parallel front and rear surfaces, the first edge being connected to the plate; a sharp portion located between the second and third edges and extending upwardly toward the base; each of the second and the third edges have equal lengths, and each of the parallel front and rear surfaces of the two unparallel and symmetrical ribs are isosceles triangles; one of the second and the third edges is positioned perpendicular to the surface of the plate and each of the parallel front and rear surfaces of the two unparallel and symmetrical ribs are right triangles; nor do Lee et al. teach each of the at least one vortex generator includes a second pair of unparallel and symmetrical ribs, first ends of the second pair of unparallel and symmetrical ribs are positioned the expansion distance apart, and second ends of the second pair of unparallel and symmetrical ribs are positioned the contraction distance apart, the second ends of the first pair of unparallel and symmetrical ribs are positioned adjacent to the first ends of the second pair of unparallel and symmetrical ribs.

Even if the teachings of Hsien and Lee et al. were combined, as suggested by the Examiner, the resultant combination does not suggest: each of the at least one vortex generator having a first pair of unparallel and symmetrical ribs; each of the first pair of unparallel and symmetrical ribs having parallel front and rear surfaces extending perpendicular to the surface of the plate; first, second, and third edges located between the parallel front and rear surfaces, the first edge being connected to the plate; each of the second and the third edges have equal lengths, and each of the parallel front and rear surfaces of the two unparallel and symmetrical ribs are isosceles triangles; nor does the combination suggest each of the at least one vortex generator includes a second pair of unparallel and symmetrical ribs, first ends of the second pair of unparallel and symmetrical ribs are positioned the expansion distance apart, and second ends of the second pair of unparallel and symmetrical ribs are positioned the contraction distance apart, the second ends of the first pair of

unparallel and symmetrical ribs are positioned adjacent to the first ends of the second pair of unparallel and symmetrical ribs.

It is a basic principle of U.S. patent law that it is improper to arbitrarily pick and choose prior art patents and combine selected portions of the selected patents on the basis of Applicant's disclosure to create a hypothetical combination which allegedly renders a claim obvious, unless there is some direction in the selected prior art patents to combine the selected teachings in a manner so as to negate the patentability of the claimed subject matter. This principle was enunciated over 40 years ago by the Court of Customs and Patent Appeals in In re Rothermel and Waddell, 125 USPQ 328 (CCPA 1960) wherein the court stated, at page 331:

> The examiner and the board in rejecting the appealed claims did so by what appears to us to be a piecemeal reconstruction of the prior art patents in the light of appellants' disclosure. ... It is easy now to attribute to this prior art the knowledge which was first made available by appellants and then to assume that it would have been obvious to one having the ordinary skill in the art to make these suggested reconstructions. While such a reconstruction of the art may be an alluring way to rationalize a rejection of the claims, it is not the type of rejection which the statute authorizes.

The same conclusion was later reached by the Court of Appeals for the Federal Circuit in Orthopedic Equipment Company Inc. v. United States, 217 USPQ 193 (Fed.Cir. 1983). In that decision, the court stated, at page 199:

> As has been previously explained, the available art shows each of the elements of the claims in suit. Armed with this information, would it then be non-obvious to this person of ordinary skill in the art to coordinate these elements in the same manner as the claims in suit? The difficulty which attaches to all honest attempts to answer this question can be attributed to the strong temptation to rely on hindsight while undertaking this evaluation. It is wrong to use the patent in suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit. Monday morning

> quarterbacking is quite improper when resolving the question of non-obviousness in a court of law.

In In re Geiger, 2 USPQ2d, 1276 (Fed.Cir. 1987) the court stated, at page 1278:

> We agree with appellant that the PTO has failed to establish a *prima facie* case of obviousness. Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching suggestion or incentive supporting the combination.

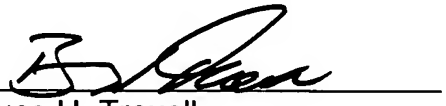
Applicant submits that there is not the slightest suggestion in either Hsien or Lee et al. that their respective teachings may be combined as suggested by the Examiner. Case law is clear that, absent any such teaching or suggestion in the prior art, such a combination cannot be made under 35 U.S.C. § 103.

Neither Hsien nor Lee et al. disclose, or suggest a modification of their specifically disclosed structures that would lead one having ordinary skill in the art to arrive at Applicant's claimed structure. Applicant hereby respectfully submits that no combination of the cited prior art renders obvious Applicant's new claims.

Summary

In view of the foregoing amendments and remarks, Applicant submits that this application is now in condition for allowance and such action is respectfully requested. Should any points remain in issue, which the Examiner feels could best be resolved by either a personal or a telephone interview, it is urged that Applicant's local attorney be contacted at the exchange listed below.

Respectfully submitted,

Date: February 4, 2005 By: 

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IN THE DRAWINGS:

Please amend Figure 11 as illustrated on the attached photocopy.